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# MAPS AND DIAGRAMS

NEW YORK AND ITS ENVIRONS

1923

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# MAPS AND DIAGRAMS

SHOWING PRESENT CONDITIONS
NEW YORK AND ITS ENVIRONS
MARCH, 1923

*Prepared by the*
PHYSICAL SURVEY

PLAN OF NEW YORK
AND ITS ENVIRONS
1923

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*Died on March 6, 1923

# INTRODUCTORY STATEMENT

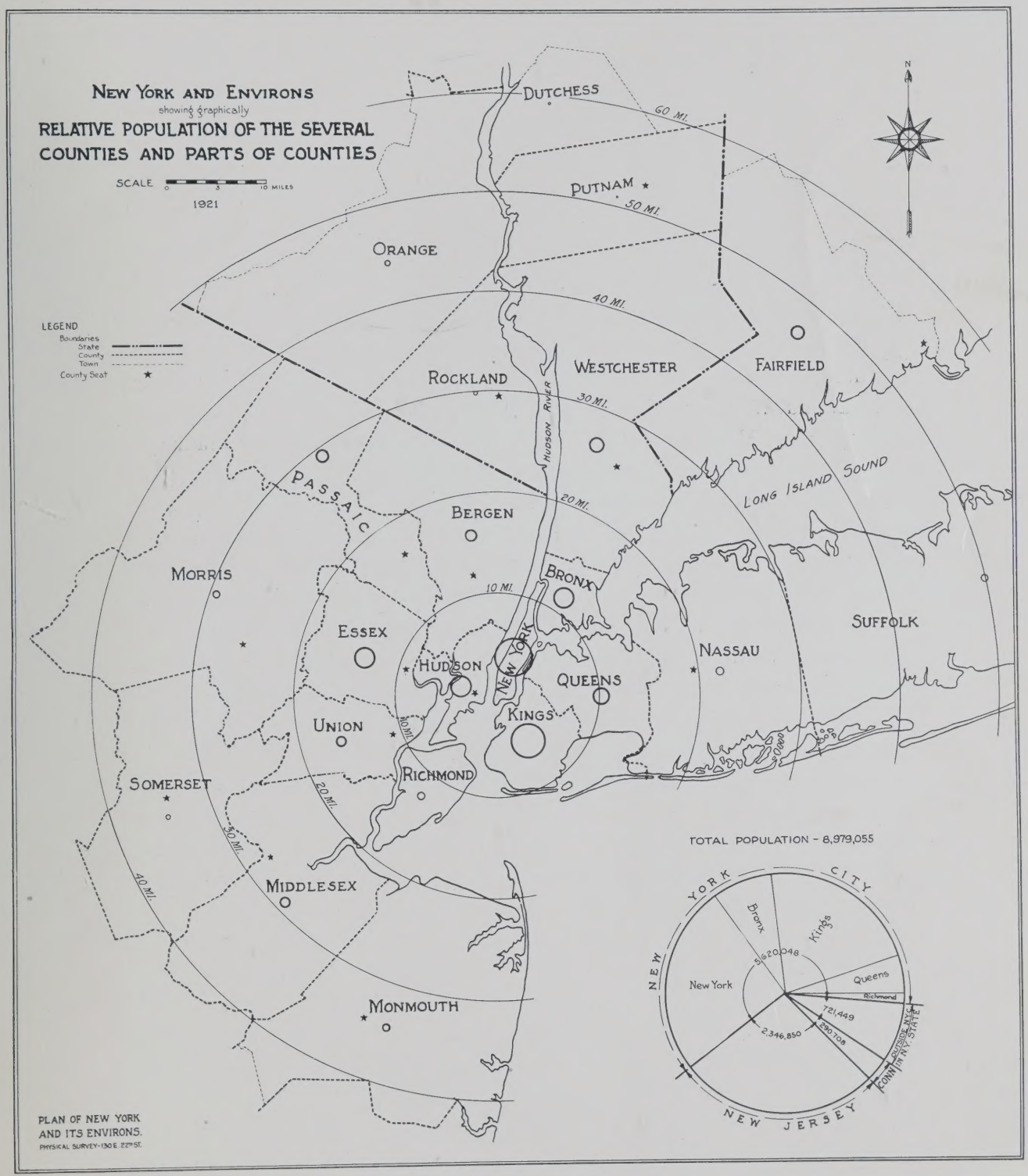
THE first thing necessary in the development of a Plan of New York and Its Environs is to visualize the problem, to determine the extent of the territory to be considered, to study its topography, to learn something of the large number of political units which will be included and their relation to each other, and to secure information concerning the various improvements and development in progress or contemplated, not only by the several states, cities, and towns, but by public service and industrial corporations. This work has been and is being carried forward by the Physical Survey, which has prepared a large number of maps, diagrams, and sketches, as was indicated on page 23 of the Report of Progress, dated February 1, 1923.

In order to give some idea of the general character of these studies and the way in which the results have been presented, a few of the maps and diagrams are reproduced herewith. Those selected will show the territory under consideration, the population of the different portions of the area, and its relative density at different periods. They will also show the main lines of communication by highways and railways, the volume of vehicular traffic on the former and the passenger train service afforded by the latter, as indicated by facilities, time, and rates of fare. Parks and other open spaces are also indicated, as well as the possibility of materially increasing the recreation facilities, while attention is drawn to the great disparity between the provision made for public recreation and that supplied by social organizations to their own limited membership. Another illustration shows the extent to which the idea of regulating the use of private property, together with the degree to which the area of plots may be built upon, has spread within this district since the adoption of New York's zoning plan in 1916.

With the kind permission of Mr. I. N. Phelps Stokes, the Eddy Map, dedicated to DeWitt Clinton, and reproduced from the "Iconography of Manhattan Island," appears upon the cover.

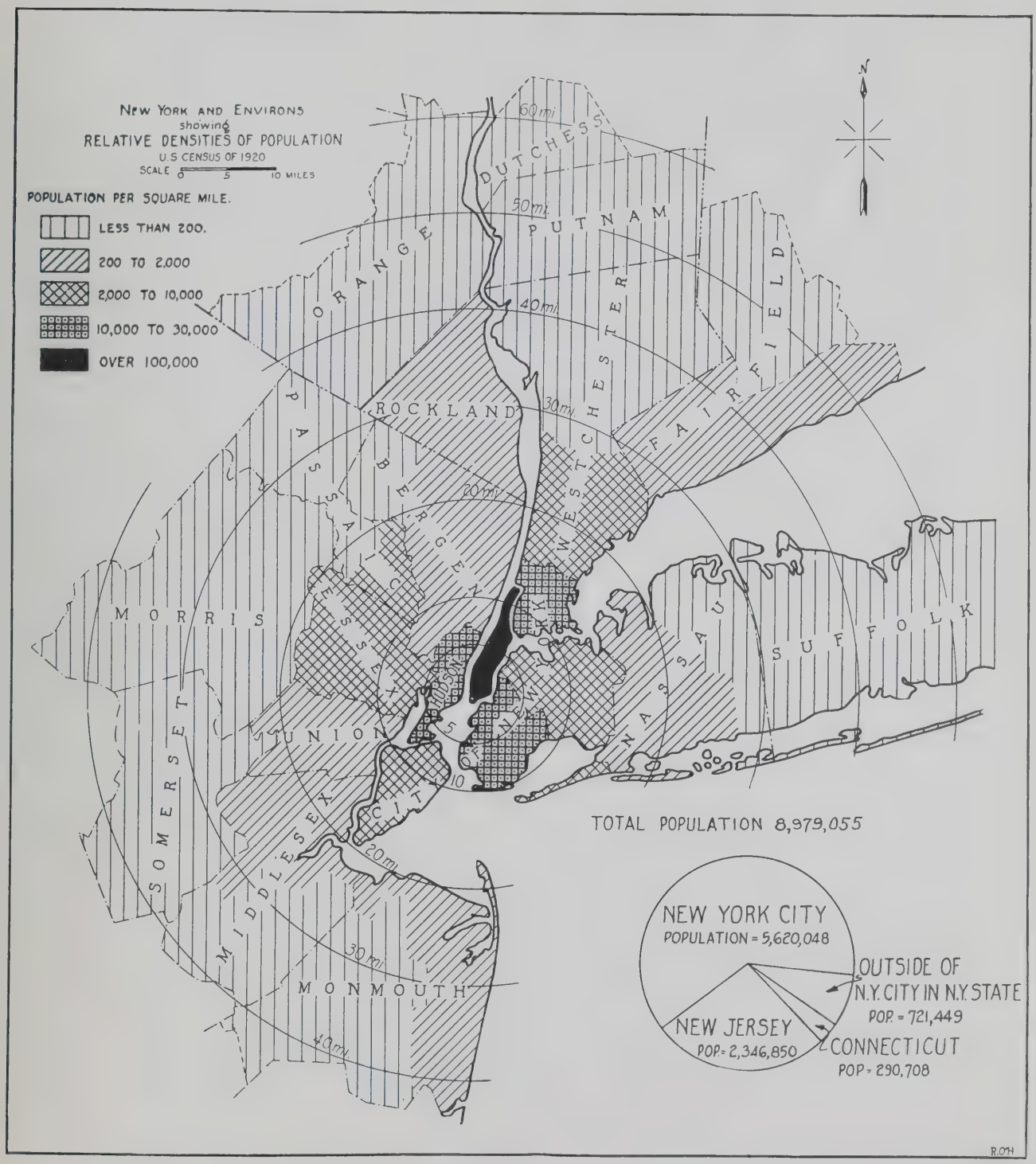
## TERRITORY INCLUDED

THE map on page 7 shows simply the counties and portions of counties in New York, New Jersey, and Connecticut which are under consideration, except that the study includes all of Long Island. The county seats, except in the counties of New York City and in Suffolk, Orange, and Dutchess Counties, where they are outside the limits of the map, are indicated by a star, and the relative populations of the different counties and parts of counties are shown by the size of the small circles. The distribution of population between the present city of New York, New York State outside of the city, New Jersey, and Connecticut, is shown by the smaller circular diagram. The figures are those of the Federal Census of 1920. Several estimates have been made of the probable population up to the end of the present century, the area being divided for this purpose into urban, suburban, and rural districts. The urban district includes the present city of New York, Hudson County, and Newark; the suburban district all of Nassau, Westchester, and Union Counties, the westerly portion of Fairfield County, Essex County, outside of Newark, and the southerly portions of Bergen and Passaic Counties; the rural district includes the remainder of the area. While the figures for the year 2000 differ somewhat, it is significant that the several estimates are almost identical up to the year 1960, these being, for the last-named date, approximately 13,000,000 for the urban, 5,000,000 for the suburban, and 2,000,000 for the rural areas, or a total of 20,000,000. These figures, therefore, with any of the estimates for the years after 1960, may safely be accepted as a reasonable basis for comprehensive planning for the future.


NEW YORK AND ENVIRONS
showing graphically
RELATIVE POPULATION OF THE SEVERAL COUNTIES AND PARTS OF COUNTIES
SCALE 0 5 10 MILES
1921
LEGEND
Boundaries
State
County
Town
County Seat
DUTCHESS
PUTNAM
ORANGE
ROCKLAND
WESTCHESTER
FAIRFIELD
PASSAIC
BERGEN
MORRIS
ESSEX
HUDSON
UNION
SOMERSET
MIDDLESEX
MONMOUTH
BRONX
NEW YORK
QUEENS
KINGS
RICHMOND
NASSAU
SUFFOLK
HUDSON RIVER
LONG ISLAND SOUND
60 MI.
50 MI.
40 MI.
30 MI.
20 MI.
10 MI.
N
TOTAL POPULATION - 8,979,055
NEW YORK CITY
Bronx
Kings
New York
Queens
Richmond
1,162,048
721,449
2,346,850
290,708
NEW JERSEY
CONN.
PLAN OF NEW YORK AND ITS ENVIRONS.
PHYSICAL SURVEY - 130 E. 22ND ST.

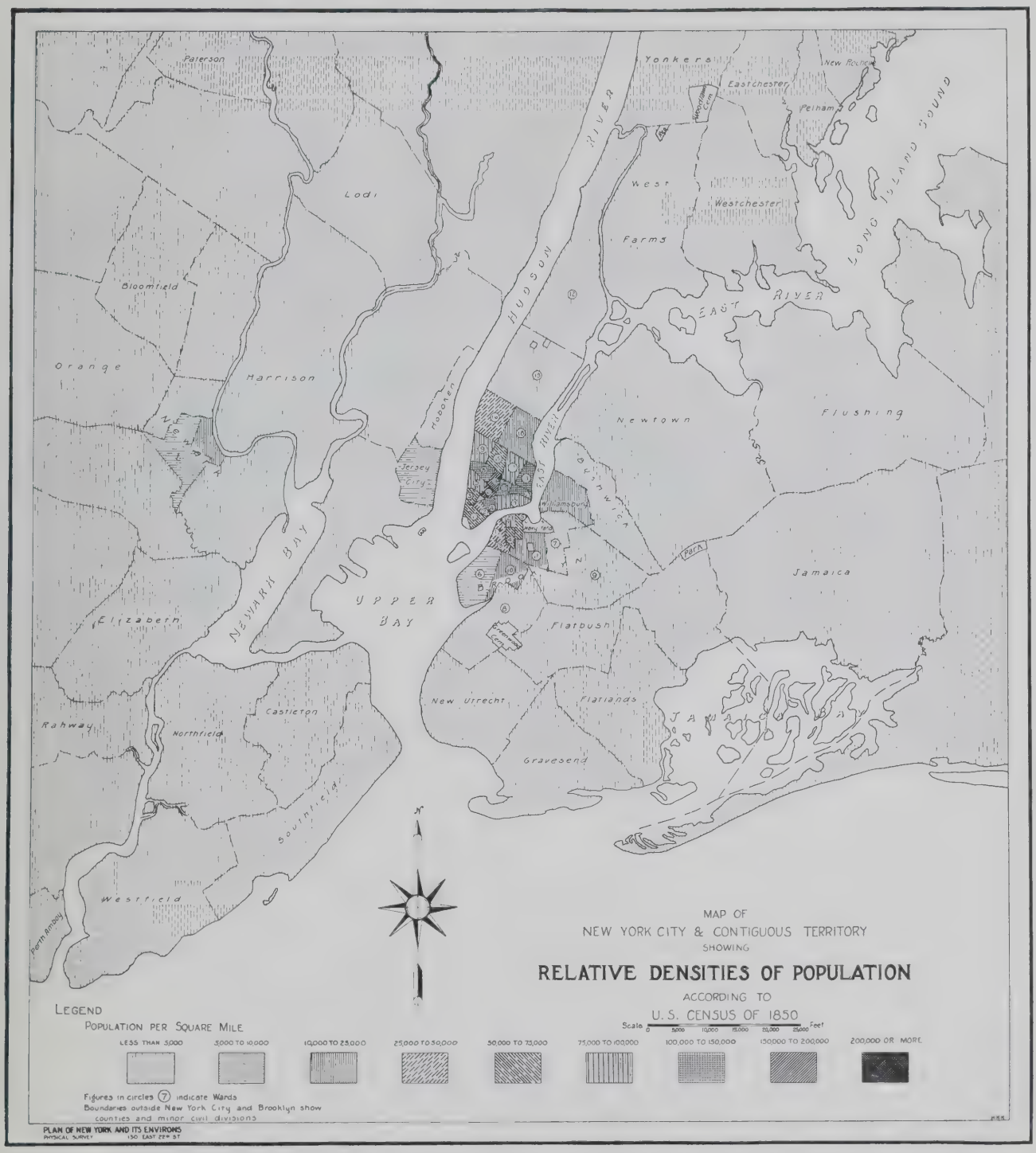
## DENSITY OF POPULATION, ENTIRE AREA, 1920

IT IS important to note how the 9,000,000 people living in this area are distributed. The map on page 9 indicates, by symbols, the average population per square mile in different parts of the district. The variations are so great that it is impossible, in such a plan, to distinguish between densities running over 100,000 to the square mile, which is the average for Manhattan Island. The next greatest density indicated is from 10,000 to 30,000, this applying to Kings, Bronx, and Hudson Counties. A surprisingly large part of the area has an average of less than 200 people to the square mile, notwithstanding the fact that towns of considerable size are included. Under this classification fall all of Suffolk, Putnam, Dutchess, Orange, Morris, and Somerset Counties, and portions of Nassau, Westchester, Fairfield, Bergen, Passaic, Middlesex, and Monmouth Counties. A comparison of the relative density of population per square mile in the rural areas, as indicated by the census enumerations made in 1850 and in 1920, discloses the somewhat startling fact that in a number of towns, from 30 to 50 miles distant from the New York City Hall, the present population per square mile is about half what it was in 1850, and in some cases even less. These are not districts where the population appears to have been displaced by the creation of large estates or by the acquisition of great tracts of land for any public purpose, such as municipal water supplies. The fact seems to show the tendency to concentration of population in large cities and towns.


NEW YORK AND ENVIRONS
showing
RELATIVE DENSITIES OF POPULATION
U.S CENSUS OF 1920
SCALE 0 5 10 MILES
POPULATION PER SQUARE MILE.
LESS THAN 200.
200 TO 2,000
2,000 TO 10,000
10,000 TO 30,000
OVER 100,000
N
60mi
50mi
40mi
30mi
20mi
10
DUTCHESS
PUTNAM
ORANGE
ROCKLAND
WESTCHESTER
FAIRFIELD
PASSAIC
BERGEN
HUDSON
ESSEX
NEW YORK
NASSAU
SUFFOLK
MORRIS
UNION
SOMERSET
MIDDLESEX
MONMOUTH
TOTAL POPULATION 8,979,055
NEW YORK CITY
POPULATION = 5,620,048
OUTSIDE OF
N.Y. CITY IN N.Y. STATE
POP. = 721,449
NEW JERSEY
POP. = 2,346,850
CONNECTICUT
POP. = 290,708
R.OTH

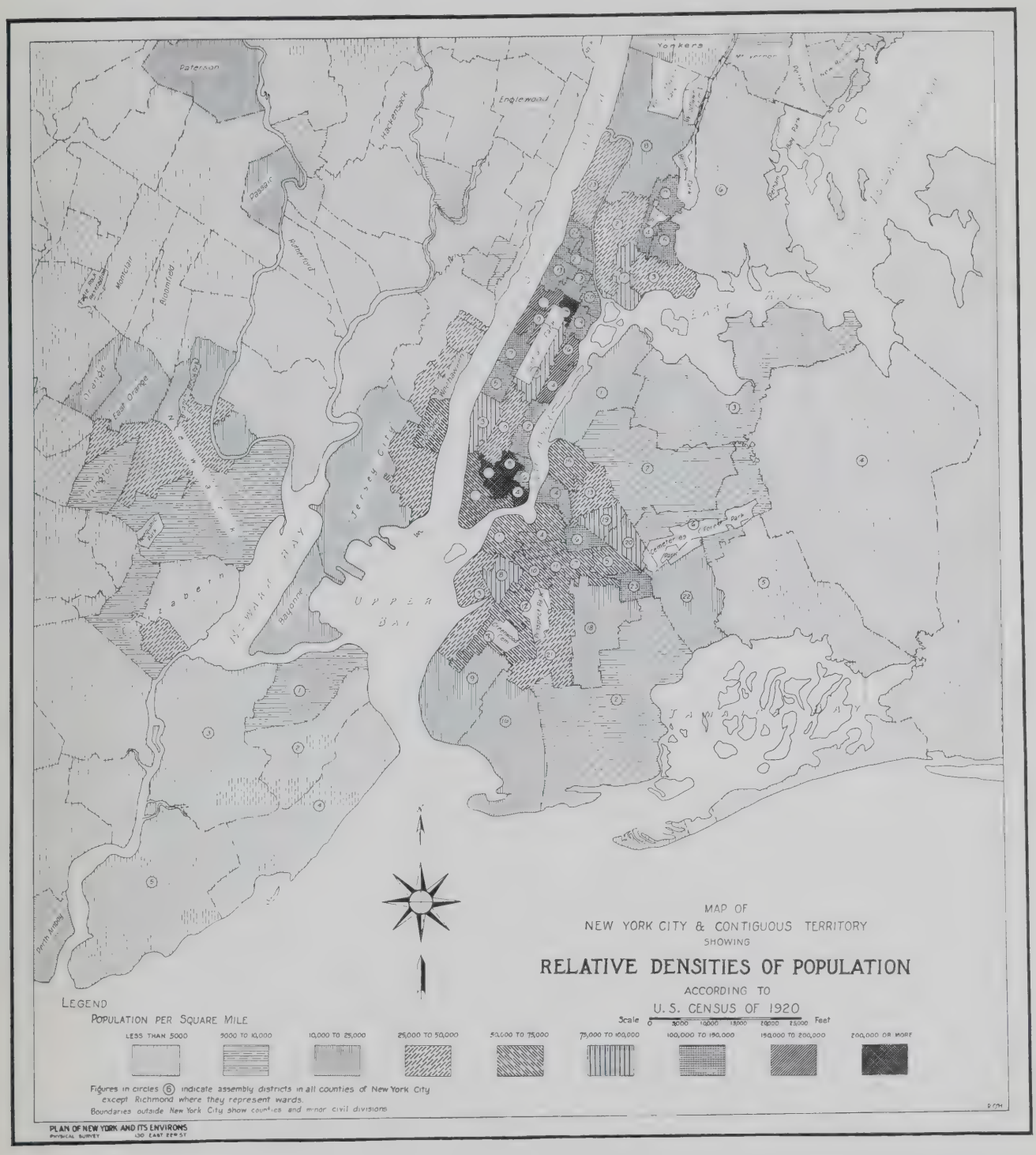
## POPULATION DENSITY, CENTRAL AREA, 1850

IT IS desirable to get a somewhat closer view of the distribution of population in the central area and see how this has changed. There is first shown on page 11 the population per square mile as indicated by the Census of 1850. The greatest density at that time was, of course, in the lower portion of Manhattan Island, where it reached between 150,000 and 200,000 per square mile. In Brooklyn the maximum was between 75,000 and 100,000, which was found in a very small area near Fulton Ferry. At no place north of Twenty-third Street in the Borough of Manhattan does there appear to have been as many as 5,000 to the square mile, and this density was reached only in very small areas in Brooklyn, in Jersey City, and in a portion of Newark. All of Manhattan above Twenty-third Street, all of the Boroughs of the Bronx, Queens, and Richmond, and what are now the populous Bushwick, Bedford, Flatbush, and Bay Ridge districts of Brooklyn, were in this same classification.


Paterson
Yonkers
New Rochelle
Eastchester
Pelham
Woodlawn Cem.
HUDSON RIVER
LONG ISLAND SOUND
Lodi
West Farms
Westchester
Bloomfield
EAST RIVER
Orange
Harrison
Hoboken
Newtown
Flushing
Jersey City
Williamsburgh
NEWARK BAY
UPPER BAY
Jamaica
Elizabeth
Flatbush
Bushwick Cem.
New Utrecht
Flatlands
Rahway
Castleton
Northfield
Gravesend
Southfield
Westfield
Perth Amboy
MAP OF
NEW YORK CITY & CONTIGUOUS TERRITORY
SHOWING
RELATIVE DENSITIES OF POPULATION
ACCORDING TO
U.S. CENSUS OF 1850
Scale 0 5000 10,000 15,000 20,000 25,000 Feet
LEGEND
POPULATION PER SQUARE MILE
LESS THAN 3,000
3,000 TO 10,000
10,000 TO 25,000
25,000 TO 50,000
50,000 TO 75,000
75,000 TO 100,000
100,000 TO 150,000
150,000 TO 200,000
200,000 OR MORE
Figures in circles (7) indicate Wards
Boundaries outside New York City and Brooklyn show counties and minor civil divisions
PLAN OF NEW YORK AND ITS ENVIRONS
PHYSICAL SURVEY 150 EAST 22ND ST

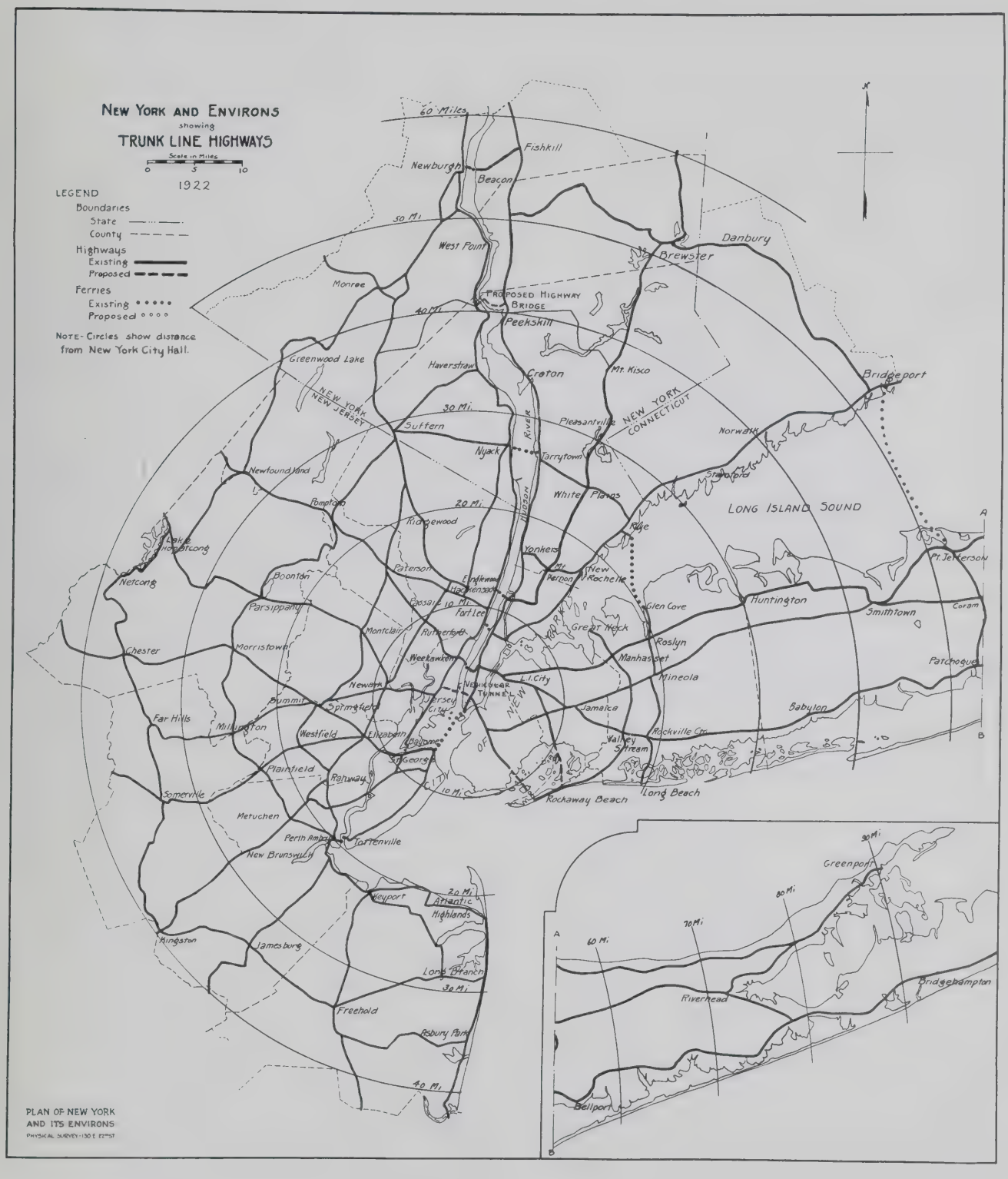
## POPULATION DENSITY, CENTRAL AREA, 1920

ACCORDING to the last census, nowhere in New York City except in a portion of the Bronx east of the Bronx River, and in the southeasterly part of the Borough of Queens, and the major part of the Borough of Richmond, could be found the average density of less than 5,000 to the square mile, which so generally prevailed in 1850. On the lower east side of Manhattan there was in 1920 a considerable area containing an average of more than 200,000 people to the square mile. From another map showing population in 1900 it appears that in portions of this same district there were then over 300,000 to the square mile, but during the next two decades this average was reduced by the destruction of many tenements in order to provide approaches to the East River bridges. The apparent decrease is also partly due to the fact that the census figures for 1920 were given by considerably larger areas. Spots of great population density have developed above Central Park, along the upper East River, in the Williamsburg and Brownsville Sections of Brooklyn, and in portions of the Bronx immediately west of the Bronx River. There is still room for a very large population, without crowding, in Eastern Bronx and Queens, and even in portions of the Borough of Brooklyn, while nearly all of the Borough of Richmond and very large areas in New Jersey still have fewer than 5,000 people to the square mile.


Yonkers
Paterson
Englewood
Hackensack
Passaic
Rutherford
Montclair
Bloomfield
East Orange
Orange
Jersey City
Hoboken
Bayonne
NEWARK BAY
UPPER BAY
Central Park
Prospect Park
Cemeteries
MAP OF
NEW YORK CITY & CONTIGUOUS TERRITORY
SHOWING
RELATIVE DENSITIES OF POPULATION
ACCORDING TO
U.S. CENSUS OF 1920
Scale 0 5000 10000 15000 20000 25000 Feet
LEGEND
POPULATION PER SQUARE MILE
LESS THAN 5000
5000 TO 10,000
10,000 TO 25,000
25,000 TO 50,000
50,000 TO 75,000
75,000 TO 100,000
100,000 TO 150,000
150,000 TO 200,000
200,000 OR MORE
Figures in circles (6) indicate assembly districts in all counties of New York City except Richmond where they represent wards.
Boundaries outside New York City show counties and minor civil divisions
PLAN OF NEW YORK AND ITS ENVIRONS
PHYSICAL SURVEY
130 EAST 22ND ST

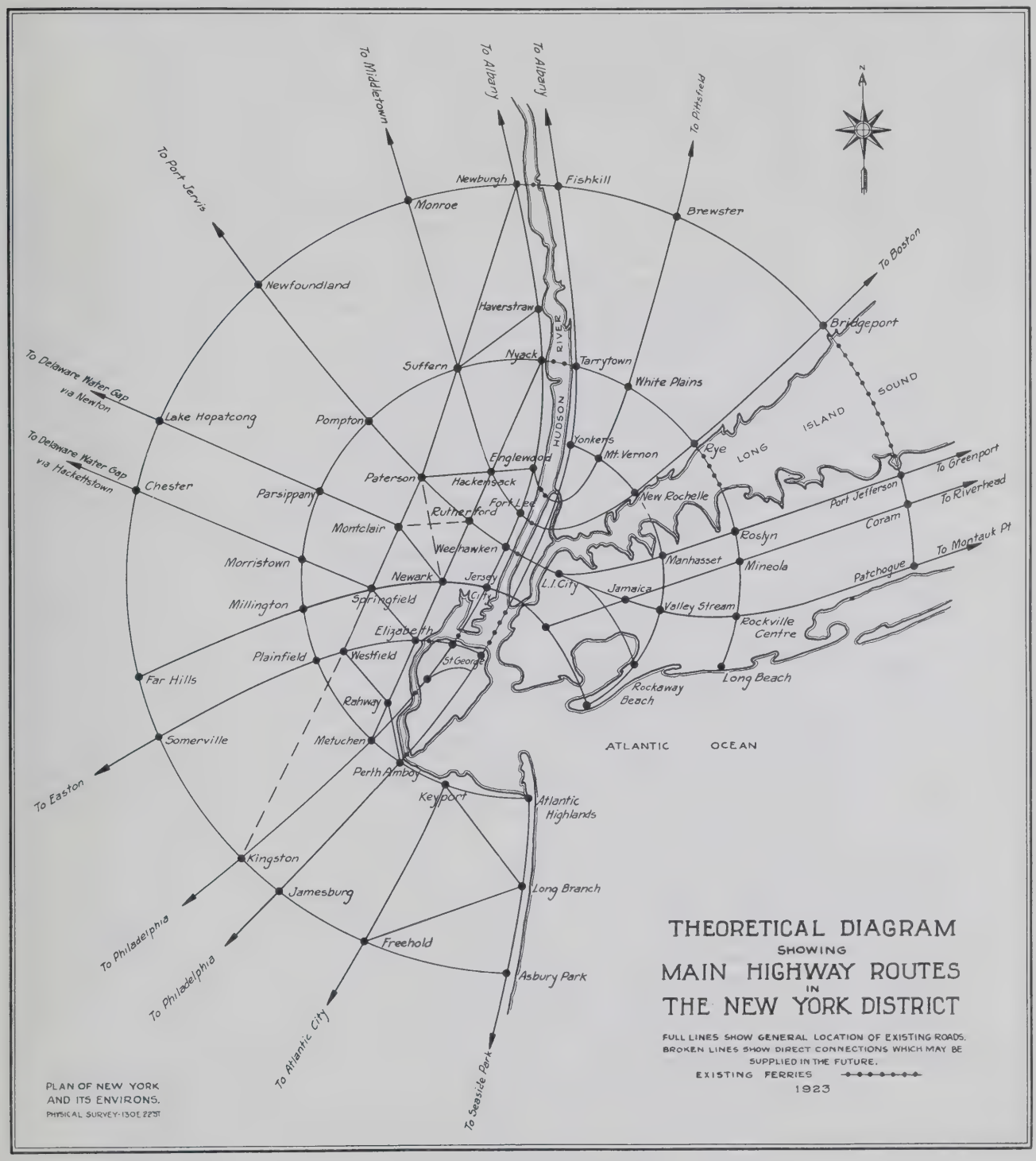
## TRUNK LINE HIGHWAYS

PUBLIC highways still constitute the most important means of communication between different parts of the area under study. The importance of the public road for this purpose may have decreased with the development of railroads, but as road surfaces have been improved, and motor vehicles, both for pleasure riding and for transport, have come into general use, the public highway has again assumed first place as a means of communication. The map on page 15 shows what might be considered trunk line highways of the district. It includes but a small proportion of the well-improved roads, and many of the heavily traveled roads are omitted. It is designed simply to show main traffic lines that connect important centers and that carry, and will always continue to carry, a large volume of miscellaneous traffic. The plan, at first glance, appears to be altogether lacking in symmetry and to be incapable of representation by a theoretical diagram such as is commonly used in planning studies. Further examination, however, will show that there is what might be called a major axis in the Albany Post Road on the easterly side of the Hudson and following Broadway (Manhattan), the ferry to Staten Island, the Amboy Road to Tottenville, and, crossing to Perth Amboy, following the old New York-Philadelphia Stage Route to Princeton, Trenton, and Philadelphia. Inner and outer circumferential routes can also be readily traced—one across Long Island and Long Island Sound from Rockville Center to Rye, and then through White Plains, Tarrytown, Nyack, Suffern, and Morristown, to Perth Amboy and Atlantic Highlands, and an outer route from Patchogue to Port Jefferson, by ferry to Bridgeport, and then by way of Brewster, Newburgh, Lake Hopatcong, and Somerville to Asbury Park.


NEW YORK AND ENVIRONS
showing
TRUNK LINE HIGHWAYS
Scale in Miles
0 5 10
1922
LEGEND
Boundaries
State
County
Highways
Existing
Proposed
Ferries
Existing
Proposed
NOTE- Circles show distance from New York City Hall.
60 Miles
50 Mi.
40 Mi.
30 Mi.
20 Mi.
10 Mi.
Fishkill
Newburgh
Beacon
West Point
Monroe
Greenwood Lake
Haverstraw
Peekskill
PROPOSED HIGHWAY BRIDGE
Croton
Mt. Kisco
Danbury
Brewster
Bridgeport
Norwalk
Stamford
Pleasantville
NEW YORK CONNECTICUT
NEW YORK NEW JERSEY
Suffern
Nyack
Tarrytown
Hudson River
White Plains
LONG ISLAND SOUND
Ridgewood
Yonkers
Mt. Vernon
New Rochelle
Rye
Pt. Jefferson
Huntington
Smithtown
Coram
Glen Cove
Great Neck
Roslyn
Manhasset
Mineola
Patchogue
Jamaica
Babylon
Rockville Ctr.
Valley Stream
Long Beach
Rockaway Beach
Newfoundland
Pompton
Lake Hopatcong
Netcong
Boonton
Parsippany
Morristown
Chester
Far Hills
Millington
Summit
Springfield
Westfield
Elizabeth
Newark
Weehawken
Montclair
Paterson
Fort Lee
Englewood
Hackensack
Passaic
Rutherford
Jersey City
Holland Tunnel
Lincoln Tunnel
Queensboro Bridge
Williamsburg Bridge
Manhattan
Brooklyn
Bronx
Newark
Elizabeth
Bayonne
St. George
Plainfield
Rahway
Somerville
Metuchen
Perth Amboy
Tottenville
New Brunswick
Keyport
Atlantic Highlands
Kingston
Jamesburg
Long Branch
Freehold
Asbury Park
Greenport
Riverhead
Bridgehampton
Bellport
A
B
PLAN OF NEW YORK AND ITS ENVIRONS
PHYSICAL SURVEY-130 E 22ND ST

## THEORETICAL DIAGRAM OF MAIN ROADS

AN effort is frequently made to reduce to a geometrical or, at least, a symmetrical figure the street system of a city or the road system of a district. Notwithstanding the complexity of the general highway plan of this territory, such a theoretical diagram can be produced, although the main axis is a curved line. There is very little distortion so far as the location of the controlling points is concerned. Of course, the roads connecting them follow neither the straight lines nor the symmetrical curves which are shown. The broken lines indicate direct connections which do not exist but which would be desirable. On the westerly side of the Hudson River there is a somewhat more direct route, closely paralleling the main axis, but avoiding the ferries. This is indicated by the straight line between Nyack and Metuchen. The plan shows how intimately the different portions of this district can be, and in many cases already are, connected with each other. It suggests the possibility of substituting more direct lines than are afforded by the present roads. There are, in many cases, very serious obstacles to the construction of such lines as, for example, between Brewster and Fishkill, where a long detour is at present necessary around the Fishkill Mountains.


To Middletown
To Albany
To Albany
To Pittsfield
To Port Jervis
To Boston
Newburgh
Fishkill
Monroe
Brewster
Newfoundland
Haverstraw
Bridgeport
HUDSON RIVER
Nyack
Tarrytown
Suffern
White Plains
To Delaware Water Gap via Newton
LONG ISLAND SOUND
Lake Hopatcong
Pompton
Yonkers
Mt. Vernon
Rye
To Delaware Water Gap via Hackettstown
Englewood
Paterson
Hackensack
Chester
Parsippany
Fort Lee
New Rochelle
To Greenport
Port Jefferson
To Riverhead
Rutherford
Montclair
Coram
Roslyn
Weehawken
To Montauk Pt
Morristown
Manhasset
Mineola
Newark
Jersey City
L.I. City
Jamaica
Patchogue
Millington
Springfield
Valley Stream
Elizabeth
Rockville Centre
Plainfield
Westfield
St George
Far Hills
Long Beach
Rahway
Rockaway Beach
ATLANTIC OCEAN
Somerville
Metuchen
Perth Amboy
To Easton
Keyport
Atlantic Highlands
Kingston
Jamesburg
Long Branch
To Philadelphia
To Philadelphia
Freehold
Asbury Park
To Atlantic City
To Seaside Park
N
THEORETICAL DIAGRAM
SHOWING
MAIN HIGHWAY ROUTES
IN
THE NEW YORK DISTRICT
FULL LINES SHOW GENERAL LOCATION OF EXISTING ROADS.
BROKEN LINES SHOW DIRECT CONNECTIONS WHICH MAY BE SUPPLIED IN THE FUTURE.
EXISTING FERRIES
1923
PLAN OF NEW YORK AND ITS ENVIRONS.
PHYSICAL SURVEY-130E 225T

# TRAFFIC DENSITY ON MAIN ROADS

THE volume of traffic on the main roads has increased, and is still increasing, to such an extent that driving on them is attended not only with discomfort but with positive danger. The diagram on page 19 indicates the volume of vehicular traffic on the principal highways radiating from the most densely populated area—New York City (except Staten Island), Hudson County, and Newark. This area is indicated by vertical section lines. The width of these strips shows, by scale, the number of vehicles passing different points during the busiest hour of the day. As these lines approach the city the strips tended to overlap and they could not be carried further than indicated. They do not all represent actual counts of traffic. Many such counts, however, were taken at various points in the States of New York, New Jersey, and Connecticut by State Highway and County Road Departments, and by men employed for that purpose by the Physical Survey. The volume of traffic represents what might be called the peak load, and in comparing different results it was soon discovered that counts taken at different seasons of the year, on different days of the week, and at different hours of the day, were not comparable. It was therefore necessary to establish, by observation and actual counts, certain ratios which could be applied to observations taken at different times and for different periods of time. The results shown by the diagram are fairly accurate and certainly indicate the need of study to determine the best location for alternate routes and by-passes to cut out congested centers.

Motor transport is increasing rapidly and must be considered in any comprehensive plan. One of the greatest sources of danger on heavily traveled roads is due to the presence of both light and heavy vehicles and those of different speeds on the same roadway. The provision of separate roadways, whether by setting apart portions of existing roads, when widened, or by establishing entirely independent routes, is something that must receive serious consideration.

The legends on the maps on pages 19, 25, and 27 are not readily legible, owing to reduction in scale, and are repeated after the descriptive text.

BOUNDARIES

State

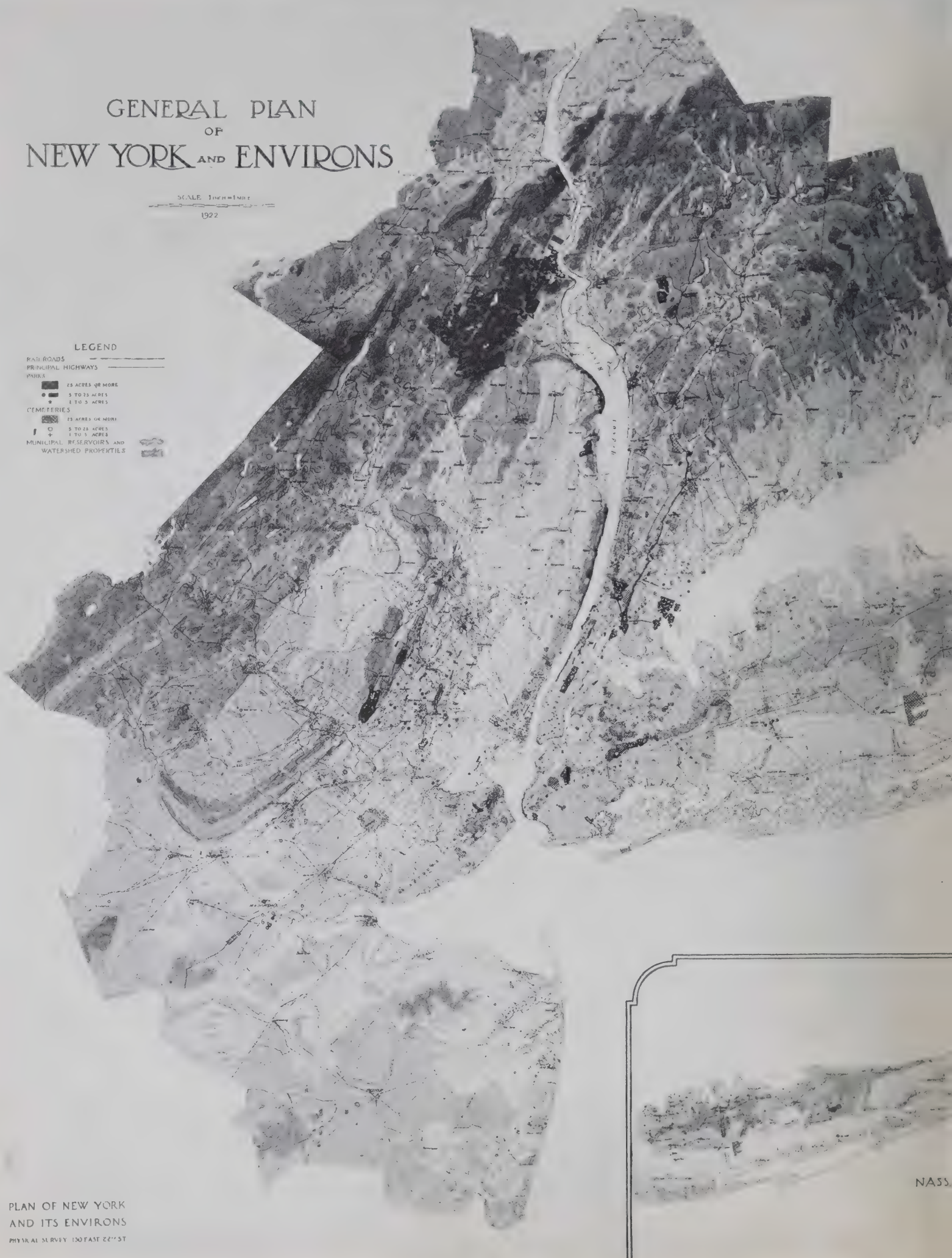
County

Township, City, etc.

Ferries

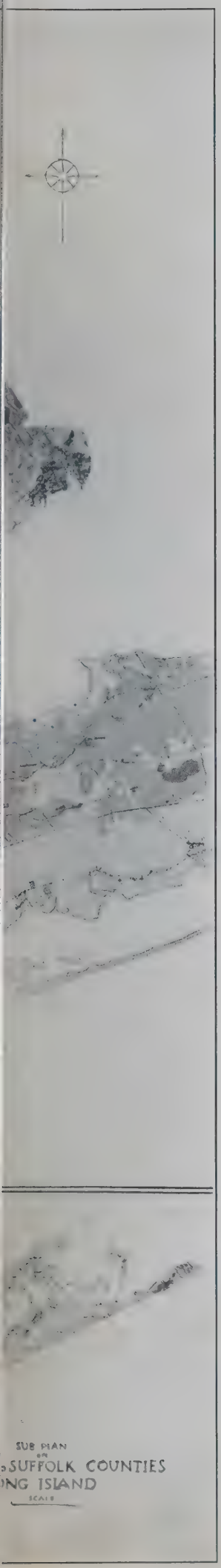
Central area, where traffic is too great to be shown at the scale used.

NEW YORK AND ENVIRONS
HIGHWAY TRAFFIC CENSUS
MAXIMUM NUMBER OF VEHICLES PASSING GIVEN POINTS WITHIN AN HOUR
COMPILED FROM AVAILABLE RECORDS AND ADDITIONAL COUNTS MADE DURING THE SUMMER OF 1922
LEGEND
PLAN OF NEW YORK AND ITS ENVIRONS
PHYSICAL SURVEY · 130E 22 ST




PLAN OF NEW YORK
AND ITS ENVIRONS

PHYSICAL SURVEY 130 EAST 22ND ST




## THE TOPOGRAPHY OF THE REGION

THE region of 5,500 square miles within the area under study has a varied topography and includes many places of rare natural beauty. The elevations range from the low-lying coasts of Long Island and New Jersey to the Highlands of the Hudson, reaching an altitude of more than 1,600 feet above sea level, while nearer the present city of New York and the populous centers of New Jersey are the sharply defined ridges of the Orange or Watchung Mountains, and back of these again the hills about Lake Hopatcong, which itself is nearly 1,000 feet above tide water. There are many other lakes scattered over the district, some of them being the reservoirs from which the large cities draw their water supplies. The deeply indented shores of Long Island Sound, the wooded hills of Staten Island, the Palisades of the Hudson, and beyond them the Highlands, are picturesque features which are rarely found in such close proximity to large centers of population.

On the opposite page is a general map of the region, which indicates quite clearly the physical features which have been briefly referred to.

## PASSENGER TRAIN SERVICE IN THE CENTRAL DISTRICT

IN studying this great area of 5,500 square miles it is necessary to see to what extent people having their homes outside of the most populous centers add to the day population of these centers and have to be carried, not only to them by trunk line railroads, but from point to point within the central area by the local transit systems. A fair indication of the amount of this movement is indicated by the diagram on page 23 showing the passenger train service. The widths of the several strips are proportioned to the number of passenger trains operated by the various railroads each twenty-four hours. While this does not represent the passenger-carrying capacity, or even the actual movement of persons, it will give a pretty good indication of its magnitude.

The increase in the width of the strips as they approach the city terminals shows the large commuting business done by the several railroads, even within the restricted area included in the map. This is especially noticeable on Long Island, where the Long Island Railroad has terminals at the Pennsylvania Railroad Station in Manhattan and at the Atlantic Avenue Station in Brooklyn. The number of trains brought into these stations by that system has increased so greatly of late that the Pennsylvania Railroad Company has appealed to the city to build one or more rapid transit lines from Jamaica, to pick up the Long Island passengers and distribute them through the city, claiming that, if this is not done, they will be crowded out of the Pennsylvania Railroad Terminal, which was built to accommodate long-distance traffic.

NEW YORK CITY & CONTIGUOUS TERRITORY
RAILROAD PASSENGER SERVICE
SHOWING THE
NUMBER OF PASSENGER TRAINS IN 24 HOURS
COMPUTED FROM SUMMER SCHEDULES AND INCLUDING
LOCAL AND EXPRESS TRAINS IN BOTH DIRECTIONS.
10 or LESS TRAINS PER DAY INDICATED THUS —⑩
- SCALES -
NOV 1922
Freight Lines thus - - - -
Passenger & Freight Lines thus
Note
Two colors were used to reduce the confusion resulting from intersecting railroads in New Jersey.
LOWER BAY
OCEAN

## RAILROAD COMMUTING FARE ZONES

IT IS generally conceded that families should be encouraged to live as far as possible outside the congested centers, where land is cheaper and where their environment, while it might be less exciting, would be more wholesome. Such a movement is quite evident in most populous districts. It is said that the County of London has, within the last ten years, given up 500,000 of its population, who have gone further out. The problem confronting the family is whether or not the amount which might be saved by lower rents or cheaper homes in outlying districts would be more than absorbed by commuting rates between home and business. The map on page 25 is intended to show just how far such a family could go at a certain daily expense for travel. The commuting zones at 5 cent intervals, and marked 15 cents, 20 cents, and so forth, show the cost of a one-way trip, on a basis of a total yearly commuting cost spread over 300 days in the year. Those who were kept in mind in preparing this chart were the men and women of modest means, whose vacations are probably limited to a fortnight, and who must make the round trip from home to place of employment about 300 times a year. An examination of this diagram would enable such persons to determine quite readily how far out from the great center they could afford to go to make their homes. Very few of those in the cities can live within walking distance of their work. Their movement to and from their places of employment is attended with discomfort and the city transit facilities are greatly overtaxed. Some of the railroads may not be prepared to accommodate more commuters at their existing terminals on Manhattan Island, but with the solution of the problem of terminal accommodation and distribution the number of those who can live under more natural conditions should be greatly increased.

BOUNDARIES

State —— · · · —— · · · —— · · · ——

County —— · —— · —— · — — · —

Township, City, etc. — — — — — —

Area served by New York City Rapid Transit System.

NOTE: Circles show distances from New York City Hall.

NEW YORK AND ENVIRONS
showing
RAILROAD COMMUTING RATES
WITH ONE WAY FIVE CENT FARE INTERVALS
TO OR FROM NEW YORK CITY TERMINALS
RATES ARE FIGURED FROM THE MONTHLY COMMUTATION FARES BY DIVIDING THE TOTAL YEARLY CHARGE BY 600, BASED ON 30 ONE WAY RIDES EACH MONTH.
SCALE
1926
LEGEND
Area served by New York City Rapid Transit
50 CENTS
45 CENTS
40 CENTS
35 CENTS
30 CENTS
25 CENTS
20 CENTS
15 CENTS
LONG ISLAND SOUND
BROOKLYN
PLAN OF NEW YORK AND ITS ENVIRONS.

## RAILROAD COMMUTING TIME ZONES

BUT it is not only the question of cost that will determine whether the city worker can establish his or her home outside the city: time is an important element and the illustration shows the amount of time required to travel between various outlying points and the Manhattan terminals of the several railroads. It may be contended that this diagram does not show so favorably as it should the commuting facilities to and from certain suburban points. That is true if the best trains with club-cars were to be used to determine the time, but, as stated in connection with the commuting fare map, the persons in mind in preparing it are those who have to be at their offices, or places of business, by nine o'clock and cannot leave them until five, nor can they afford, if living in New Jersey, to leave the train at the New Jersey Terminal and pay an extra fare to save a few minutes by taking a tunnel train, when they can without extra charge reach the ferry terminal on the New York side of the river. The diagram shows that there are certain points further out which enjoy good express service and which can be reached in as short a time as others which are nearer. It also shows the handicap in time of certain nearby points, owing to inferior train service or bad connections, handicaps which might be readily removed. A decision as to the location of a home will involve questions of expense and time. The preceding map indicated the cost of commuting to various distances. This one shows how much of the day must be given up to railway travel. The two together may help in reaching a conclusion.

BOUNDARIES

State —— · · —— · · · — - · · · ——

County —— · —— · —— · — · ——

Township, City, etc. — — — — — —

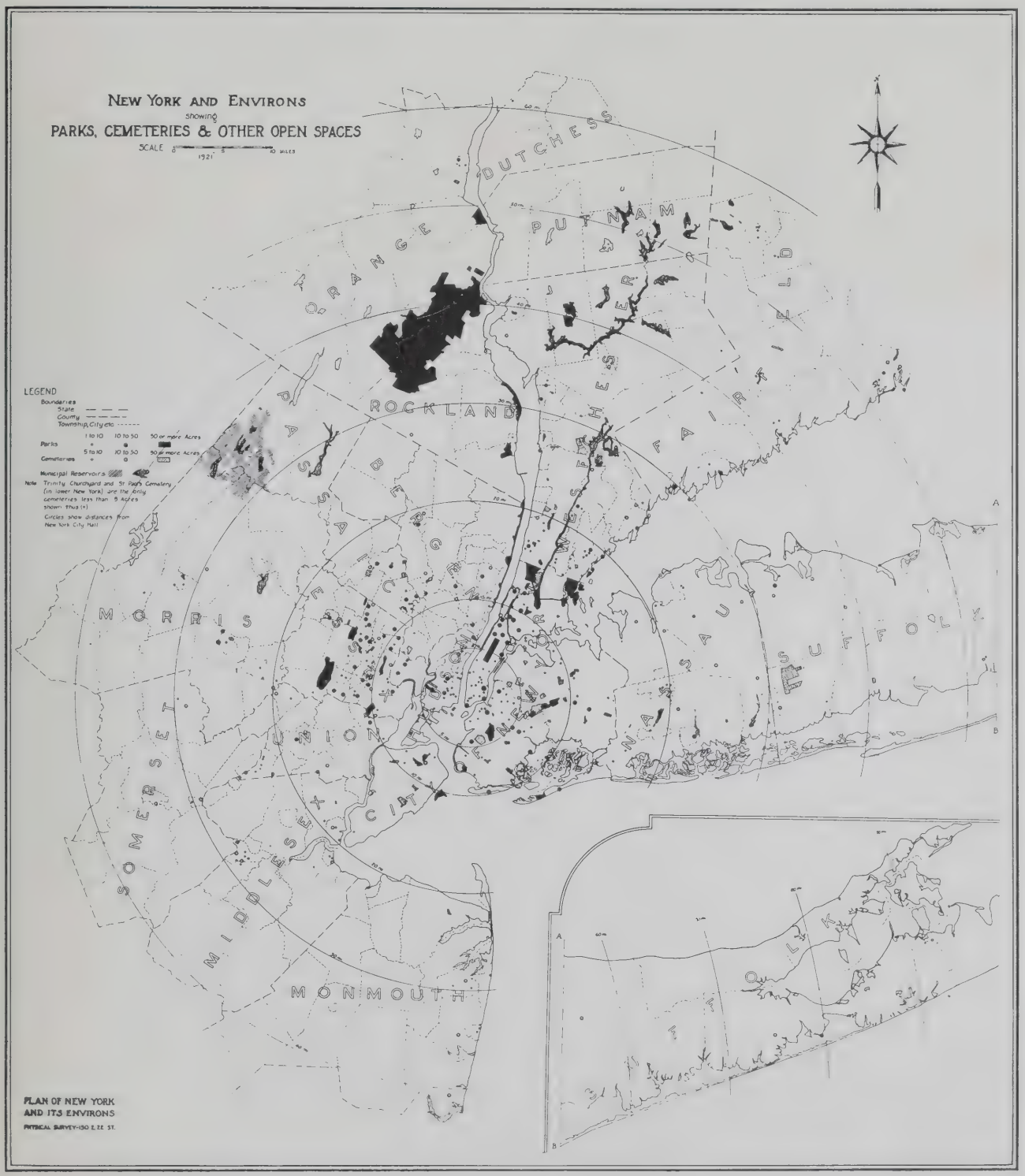
NOTE: Circles show distances from New York City Hall.

NEW YORK AND ENVIRONS
RAILROAD COMMUTING TIME
WITH 15 MINUTE INTERVALS
TO AND FROM NEW YORK CITY TERMINALS
TIME IS COMPUTED BY AVERAGING COMMUTING TIME ON MORNING AND EVENING TRAINS. TWENTY MINUTES ARE ADDED TO THE TIME TO AND FROM HARLEM RIVER STATION ON N.Y.W.B.&B.R.R.
LONG ISLAND SOUND
PLAN OF NEW YORK AND ITS ENVIRONS.
PHYSICAL SURVEY-HOE 22ST

## PARKS AND OPEN SPACES

ONE of the most important features of a regional plan is the provision for recreation. The map on page 29 shows the parks, cemeteries, and open spaces in the entire territory. The scale, however, is so small that it is impossible to show, except by symbols, any of them less than 50 acres in area. Cemeteries have been included for the reason that, while not available for public recreation, they may be considered permanent open spaces; and, looking far ahead, they may some day be converted into actual parks, as has already been done in several cases within the district.

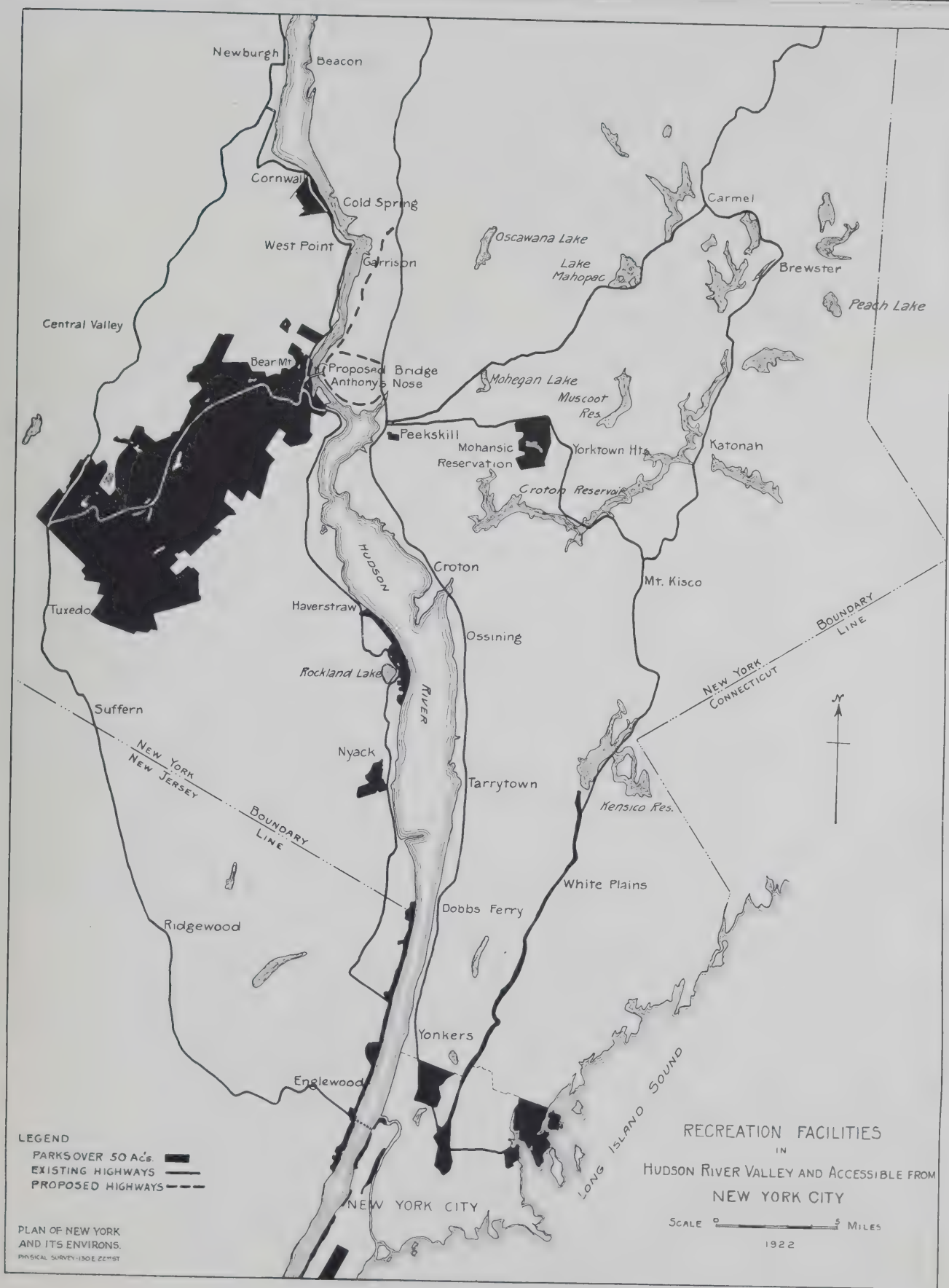
The conspicuous feature of this plan is the great Bear Mountain Park, under the jurisdiction of the Palisades Interstate Park Commission. It also shows the excellent system established by Essex County, N. J., and the fine beginning of a Westchester County Park System in the Bronx River Parkway and the Mohansic tract of 1,100 acres lately ceded by the State of New York to Westchester County for park purposes. The shaded area in which is located the system of reservoirs of the Pequannock Watershed is owned by the city of Newark. Less extensive areas around the various reservoirs of the Croton Watershed are owned by New York City, and consideration should certainly be given to the possibility of making these areas more available to the public. The reservoirs themselves provide a system of lakes of rare beauty, and while the use, by large crowds, of the shores of these lakes for recreation purposes will be inconsistent with the proper security of water supplies for domestic use, it might be possible, without excessive cost for sanitary supervision, to give the public the benefit of limited enjoyment of these areas.


NEW YORK AND ENVIRONS
showing
PARKS, CEMETERIES & OTHER OPEN SPACES
SCALE
1921
LEGEND
Boundaries
State
County
Township, City etc
Parks
1 to 10
10 to 50
50 or more Acres
5 to 10
10 to 50
50 or more Acres
Cemeteries
Municipal Reservoirs
Note Trinity Churchyard and St Paul's Cemetery (in lower New York) are the only cemeteries less than 5 Acres shown thus (+)
Circles show distances from New York City Hall
DUTCHESS
PUTNAM
ORANGE
ROCKLAND
WESTCHESTER
NASSAU
SUFFOLK
MORRIS
ESSEX
UNION
HUDSON
BERGEN
PASSAIC
SOMERSET
MIDDLESEX
MONMOUTH
QUEENS
KINGS
RICHMOND
PLAN OF NEW YORK
AND ITS ENVIRONS
PHYSICAL SURVEY-150 E 22 ST.

# EXISTING RECREATION FACILITIES IN THE HUDSON RIVER VALLEY

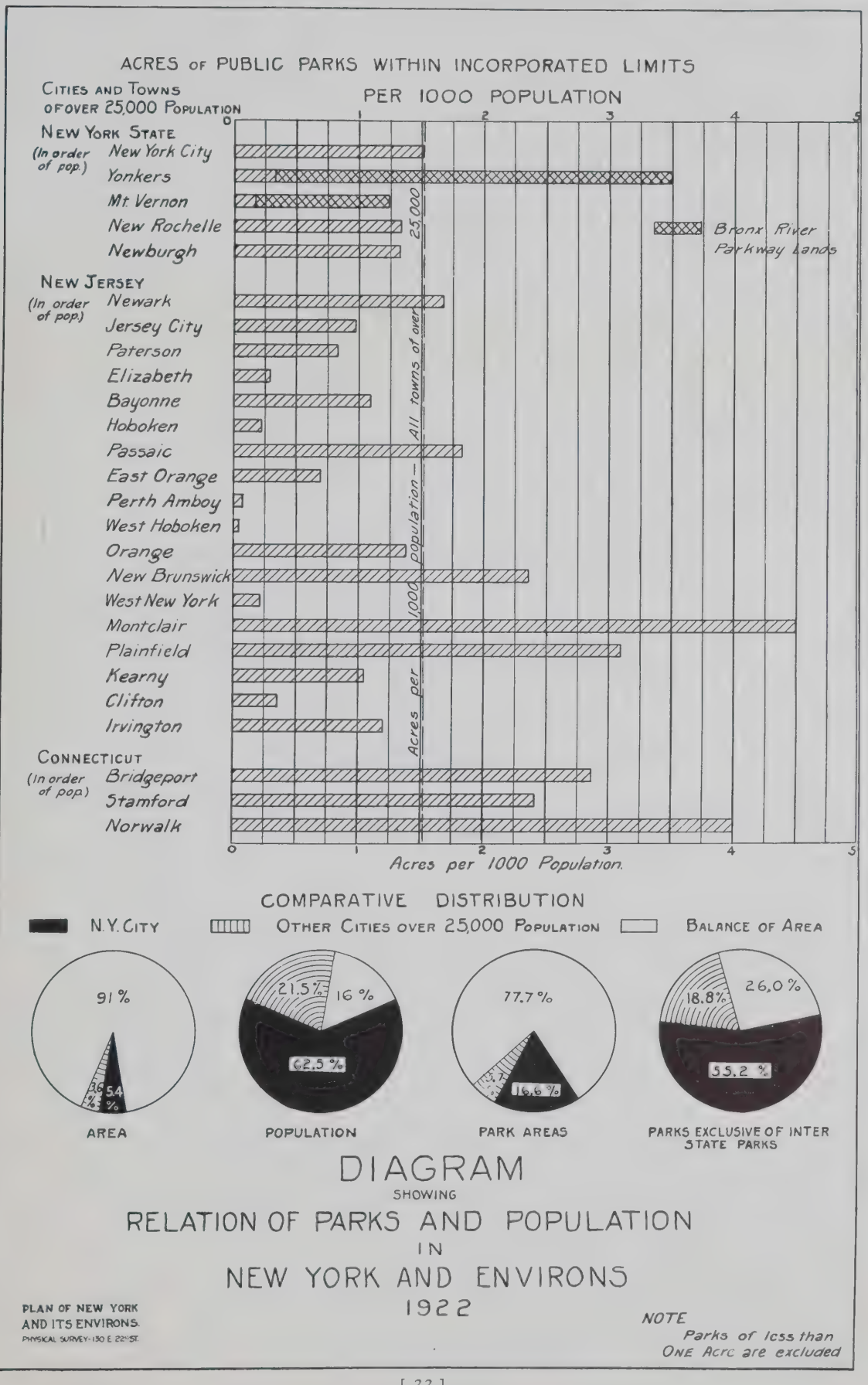
THE map on page 31 shows the possibilities of the more effective use of the publicly owned lands in the Hudson River Valley. It shows both the Bear Mountain Park and the Mohansic Reservation, the great parks of the Borough of the Bronx, the Bronx River Parkway, the strips of park along the westerly side of the Hudson under the jurisdiction of the Palisades Interstate Park Commission, the system of lakes and reservoirs in the Croton Watershed, and the main highways connecting them, including the proposed new bridge across the Hudson between Anthony's Nose and Bear Mountain. By means of this bridge it will be possible for those on the easterly side of the Hudson and from New England to reach the Ramapo Hills, the New Jersey shore, and the south, without traversing the already overcrowded streets of New York City and without the long delays at the ferries, there being at the present time no highway bridge across the Hudson south of Albany.

Realizing the need of adequate connections between the different units of a park system, it is now proposed that the state establish a parkway which will connect the northerly end of the Bronx River Parkway at the foot of the Kensico dam with Bear Mountain, by way of Pines Bridge across the Croton Reservoir, Mohansic Park, Peekskill, and the new Hudson River bridge, above referred to. Another state project includes the creation of the Roosevelt Memorial Park and Parkway, the former located on the shore of Oyster Bay and the latter extending from this park to the city line, by way of East Norwich, Roslyn, and Manhasset, then following Northern Boulevard and Jackson Avenue through Bayside and Flushing to the Queensboro Bridge and Central Park.


Newburgh
Beacon
Cornwall
Cold Spring
West Point
Garrison
Central Valley
Bear Mt.
Proposed Bridge
Anthony's Nose
Oscawana Lake
Lake Mahopac
Carmel
Brewster
Peach Lake
Mohegan Lake
Muscoot Res.
Peekskill
Mohansic Reservation
Yorktown Hts.
Katonah
Croton Reservoir
Croton
Mt. Kisco
Hudson River
Tuxedo
Haverstraw
Ossining
Rockland Lake
Suffern
New York
New Jersey
Boundary Line
New York
Connecticut
Boundary Line
Nyack
Tarrytown
Kensico Res.
White Plains
Dobbs Ferry
Ridgewood
Yonkers
Englewood
Long Island Sound
New York City
LEGEND
PARKS OVER 50 Ac's.
EXISTING HIGHWAYS
PROPOSED HIGHWAYS
PLAN OF NEW YORK AND ITS ENVIRONS.
PHYSICAL SURVEY-130 E. 22ND ST
RECREATION FACILITIES
IN
HUDSON RIVER VALLEY AND ACCESSIBLE FROM
NEW YORK CITY
SCALE 0 5 MILES
1922

## AREA, POPULATION, AND PARKS IN URBAN AND RURAL DISTRICTS

THE distribution of area, population, and park spaces, between the present city of New York, other cities and towns of more than 25,000 population, and the remainder of the territory, is shown by the figures on page 33. Besides the city of New York, there are 25 other municipalities of over 25,000, four of which are in New York State, 18 in New Jersey, and three in Connecticut. The provision of park areas in proportion to population varies greatly, with West Hoboken and Perth Amboy at one end of the list and Montclair at the other, the last named having four and one-half acres of park to each 1,000 of its population, while Norwalk comes next with four acres. Mt. Vernon and Yonkers would have been well down in the list were it not for the fact that a large proportion of the land acquired for the Bronx River Parkway falls within their corporate limits. The portions of the county parks falling within the corporate limits of the several municipalities are credited to them, the rest being included in the "balance of area." It is interesting to note that the provision of park areas, in proportion to population, in New York City, corresponds almost precisely with the average of all towns of over 25,000 population. In the comparative distribution, indicated by sectors of circles, the inclusion of the Palisades Interstate Park Commission's reservations gives such a large percentage to the area outside of the towns and cities that an additional diagram is included which gives the proportions excluding interstate parks.




# DIAGRAM

SHOWING

## RELATION OF PARKS AND POPULATION

IN

## NEW YORK AND ENVIRONS

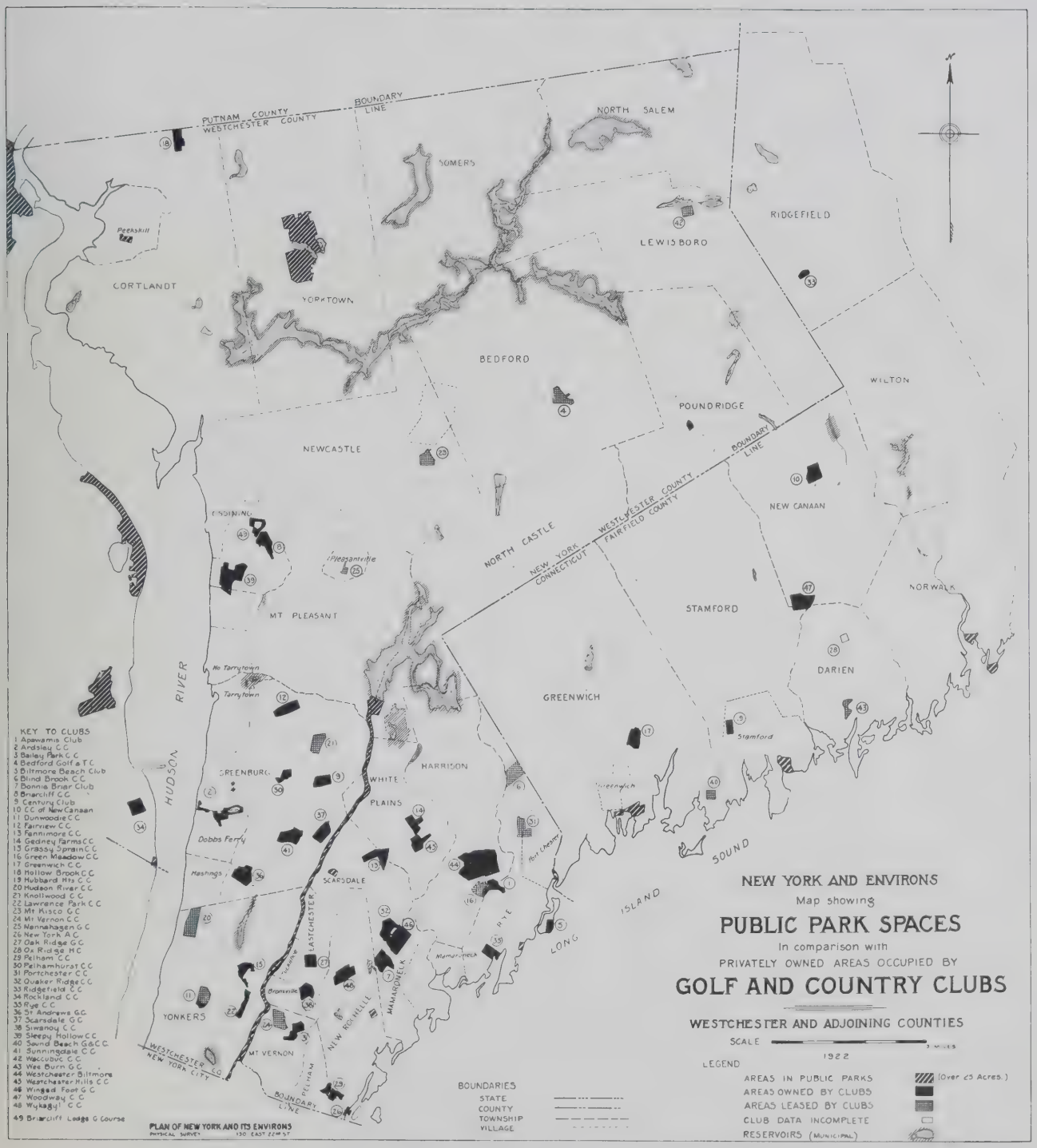
1922

PLAN OF NEW YORK AND ITS ENVIRONS.
PHYSICAL SURVEY-130 E. 22ND ST.

NOTE
Parks of less than ONE Acre are excluded

## COMPARISON OF PUBLIC AND PRIVATE PROVISION FOR RECREATION

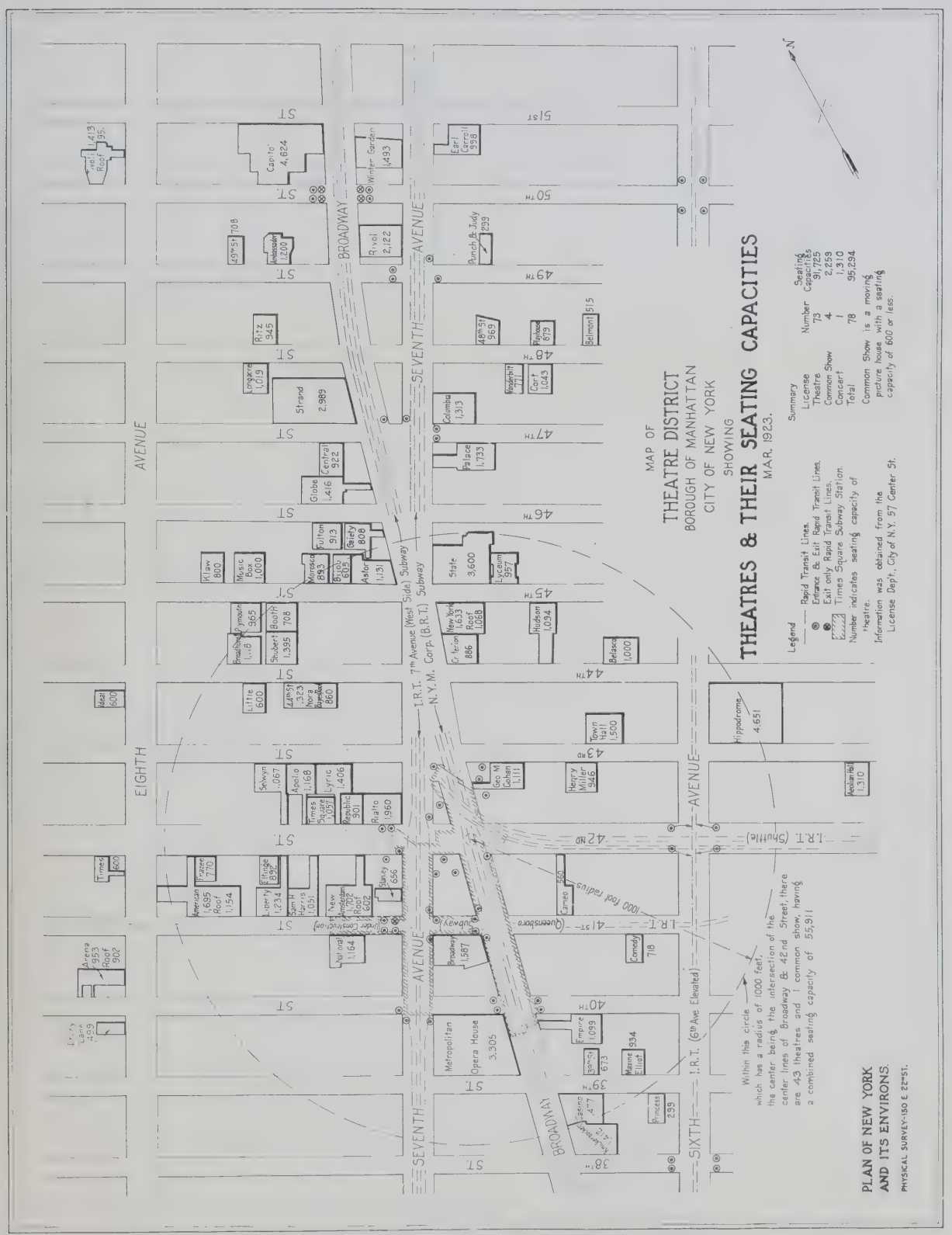
FROM the diagram on page 33 it appears that many of the towns and cities have made quite liberal provision for public recreation, as judged by the open spaces, whether in proportion to total area or population. Outside of the larger centers of population there is a great disparity between open spaces and recreation facilities available to the public, and those established by golf and country clubs for the exclusive use of their own members. This is distinctly shown by the map on page 35. It will be seen that the only large public recreation spaces on the easterly side of the Hudson River are the Mohansic reservation in Yorktown and the Bronx River Parkway. In Westchester County alone there are at least 38 such clubs, holding 5,230 acres, some leased, but for the most part owned, with a total estimated value of about $11,000,000. The number of such clubs is constantly increasing. Attention has repeatedly been called to the need of adopting a policy of acquiring strips or zones of vacant land outside present populous areas, which would form breaks in the continuous outward extension of the built-up areas. In the progress report of February 1, 1923 (see page 5), it was suggested that this might be accomplished by the acquisition of some of the properties occupied by these clubs, with intervening agricultural or wooded tracts, the clubs and the agricultural land being leased back to the present owners or occupants, under long-time leases, for rentals which would meet the interest and amortization charges on the cost of the property, thus insuring their reservation as open spaces with practically no additional tax burden.


PUTNAM COUNTY
WESTCHESTER COUNTY
BOUNDARY LINE
NORTH SALEM
SOMERS
RIDGEFIELD
LEWISBORO
CORTLANDT
YORKTOWN
BEDFORD
POUND RIDGE
WILTON
NEWCASTLE
NEW CANAAN
NORTH CASTLE
NEW YORK
CONNECTICUT
WESTCHESTER COUNTY
FAIRFIELD COUNTY
BOUNDARY LINE
MT PLEASANT
STAMFORD
NORWALK
DARIEN
GREENWICH
HUDSON RIVER
HARRISON
WHITE PLAINS
SCARSDALE
YONKERS
MT VERNON
LONG ISLAND SOUND
KEY TO CLUBS
1 Apawamis Club
2 Ardsley C C
3 Bailey Park C C
4 Bedford Golf & T C
5 Biltmore Beach Club
6 Blind Brook C C
7 Bonnie Briar Club
8 Briarcliff C C
9 Century Club
10 C C of New Canaan
11 Dunwoodie C C
12 Fairview C C
13 Fenimore C C
14 Gedney Farms C C
15 Grassy Sprain C C
16 Green Meadow C C
17 Greenwich C C
18 Hollow Brook C C
19 Hubbard Hts C C
20 Hudson River C C
21 Knollwood C C
22 Lawrence Park C C
23 Mt Kisco C C
24 Mt Vernon C C
25 Nannahagen G C
26 New York A C
27 Oak Ridge G C
28 Ox Ridge H C
29 Pelham C C
30 Pelhamhurst C C
31 Portchester C C
32 Quaker Ridge C C
33 Ridgefield C C
34 Rockland C C
35 Rye C C
36 St Andrews G C
37 Scarsdale G C
38 Siwanoy C C
39 Sleepy Hollow C C
40 Sound Beach G & C C
41 Sunningdale C C
42 Waccabuc C C
43 Wee Burn G C
44 Westchester Biltmore
45 Westchester Hills C C
46 Winged Foot G C
47 Woodway C C
48 Wykagyl C C
49 Briarcliff Lodge G Course
BOUNDARIES
STATE
COUNTY
TOWNSHIP
VILLAGE
NEW YORK AND ENVIRONS
Map showing
PUBLIC PARK SPACES
In comparison with
PRIVATELY OWNED AREAS OCCUPIED BY
GOLF AND COUNTRY CLUBS
WESTCHESTER AND ADJOINING COUNTIES
SCALE
1922
LEGEND
AREAS IN PUBLIC PARKS (Over 25 Acres.)
AREAS OWNED BY CLUBS
AREAS LEASED BY CLUBS
CLUB DATA INCOMPLETE
RESERVOIRS (MUNICIPAL)
PLAN OF NEW YORK AND ITS ENVIRONS
PHYSICAL SURVEY
130 EAST 22nd ST

# CONGESTION IN NEW YORK THEATER DISTRICT

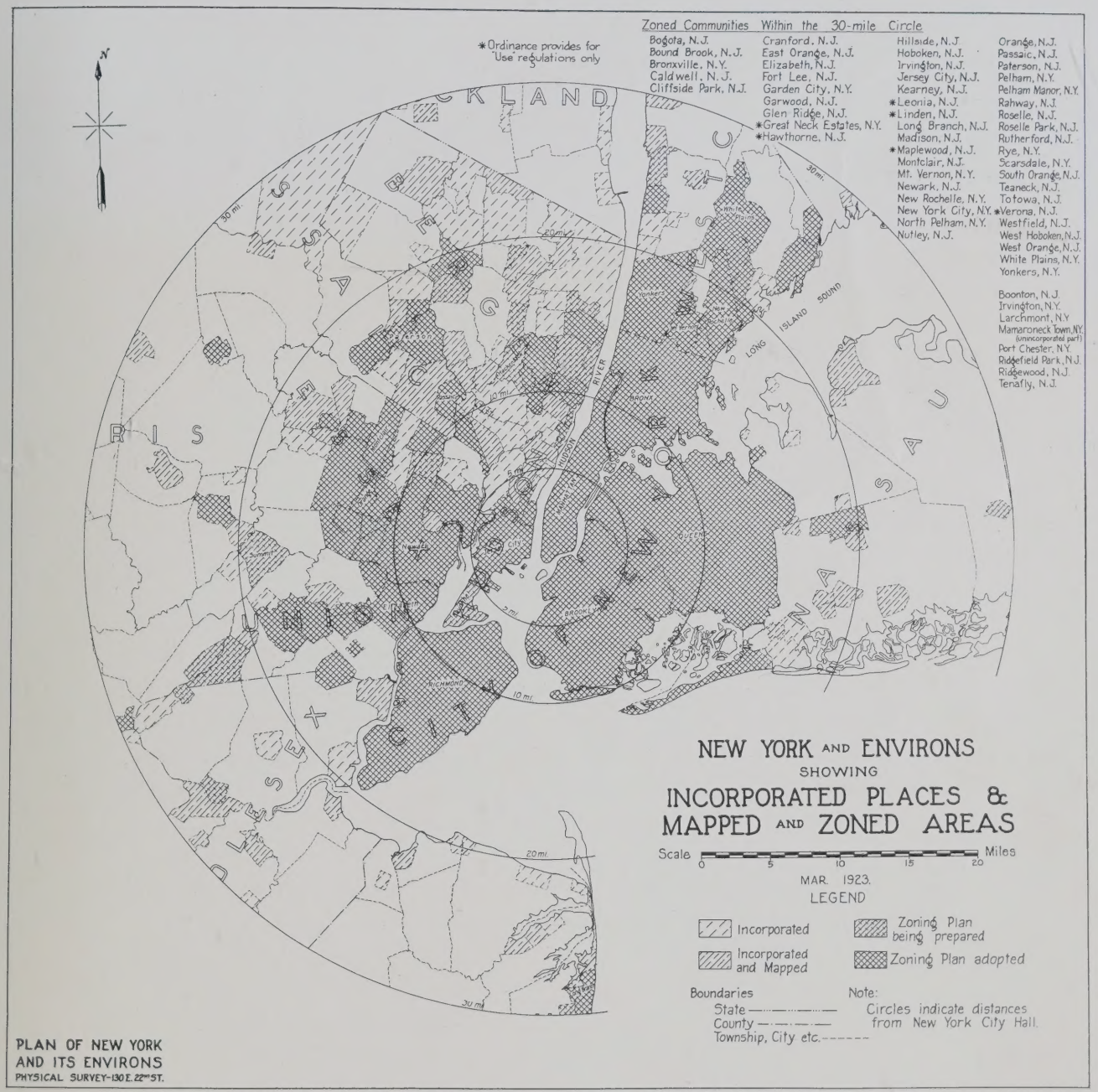
THE tendency toward segregation of various kinds of business, and even of amusements, and the complications which sometimes result, are shown by the plan on page 37, indicating the number of theaters within the district immediately served by the Times Square and the Forty-ninth and Fiftieth Street subway stations. Between Thirty-eighth and Fifty-first Streets and between Sixth and Eighth Avenues there are no fewer than 78 places of assembly of this kind. Their combined seating capacity is 95,294. Forty-four of them, with a seating capacity of 55,911, are within a circle having a radius of 1,000 feet from the center of Broadway and Forty-second Street. Let us assume that of the 56,000, 35,000 come from the Times Square station between 8.00 and 8.30 P. M. From this station Interborough and Brooklyn Rapid Transit trains run both north and south, while a shuttle train runs to the Grand Central Station and the east side Interborough line. If two-thirds of the 35,000 people were to arrive or leave within a single quarter of an hour, and if they were distributed equally between the two north-bound, two south-bound, and one east-bound lines, it would mean that 4,700 persons, or 940 every three minutes, would be carried in each of the five directions. As the numbers going north, south, and east vary greatly, there are much confusion and discomfort.

To visualize this problem a little more clearly, attention is called to the fact that the 95,294 people attending the 78 places of entertainment, when all seats are occupied, more than equals the combined population of Mount Vernon, New Rochelle, the Pelhams, Bronxville, Tuckahoe, and Scarsdale, as reported in the 1920 census. It is also more than the total population of Orange, East Orange, and South Orange, and is almost precisely equivalent to that of Passaic, Clifton, and Little Falls. If the practice prevailing in London of issuing building permits for structures containing places of public assembly only after reports from the police and fire departments as to the effect upon traffic and the fire hazard had prevailed in New York, it would have prevented the conditions which are to be seen every night in this part of the city.


MAP OF
THEATRE DISTRICT
BOROUGH OF MANHATTAN
CITY OF NEW YORK
SHOWING
THEATRES & THEIR SEATING CAPACITIES
MAR. 1923.
Legend
Rapid Transit Lines.
Entrance & Exit Rapid Transit Lines.
Exit only Rapid Transit Lines.
Times Square Subway Station.
Number indicates seating capacity of theatre.
Information was obtained from the License Dept., City of N.Y. 57 Center St.
Summary
License — Number — Seating Capacities
Theatre 73 91,725
Common Show 4 2,259
Concert 1 1,310
Total 78 95,294
Common Show is a moving picture house with a seating capacity of 600 or less.
Within this circle which has a radius of 1000 feet, the center being the intersection of the center lines of Broadway & 42nd Street, there are 43 theatres and 1 common show, having a combined seating capacity of 55,911
1000 foot radius
PLAN OF NEW YORK AND ITS ENVIRONS.
PHYSICAL SURVEY-150 E. 22nd ST.
Broadway
Seventh Avenue
Eighth Avenue
Sixth Avenue
I.R.T. 7th Avenue (West Side) Subway
N.Y.M. Corp. (B.R.T.) Subway
I.R.T. (6th Ave Elevated)
I.R.T. (Shuttle)
42nd
43rd
44th
45th
46th
47th
48th
49th
50th
51st
39th
40th
41st (Queensboro Connection)
Arena 953 Roof 902
Lyric 499
Times 600
American 1,695 Roof 1,154
Liberty 1,734
Eltinge 892
Sam H. Harris 1,051
New Amsterdam 1,702 Roof 602
Stanley 656
National 1,164
Metropolitan Opera House 3,305
Broadway 1,587
Empire 1,099
39th St. 673
Maxine Elliot 934
Casino 477
Knickerbocker 1,212
Princess 299
Comedy 718
Cameo 598
Selwyn 1,067
Apollo 1,168
Times Square 1,051
Lyric 1,406
Republic 901
Rialto 1,960
Geo. M. Cohan 1,111
Henry Miller 946
Town Hall 1,500
Hippodrome 4,651
Aeolian Hall 1,310
Criterion 886
New York 1,633 Roof 1,068
Hudson 1,094
Belasco 1,000
State 3,600
Lyceum 957
Palace 1,733
Columbia 1,313
Vanderbilt 771
Cort 1,043
48th St. 969
Playhouse 879
Belmont 515
Punch & Judy 299
Earl Carroll 998
Winter Garden 1,493
Roof 1,413 95
Capitol 4,624
Rivoli 2,122
49th St. 708
Ambassador 1,200
Ritz 945
Longacre 1,019
Strand 2,989
Central 922
Globe 1,416
Klaw 800
Music Box 1,000
Morosco 883
Fulton 913
Gaiety 808
Bijou 605
Astor 1,131
Plymouth 1,118
Shubert 1,395
Booth 708
Little 600
48th St. 323
Nora Bayes 860
Ideal 600

## PROGRESS OF ZONING IN THE TERRITORY WITHIN THIRTY MILES OF NEW YORK

THE last illustration shows the extent to which the zoning idea has spread in the vicinity of New York since that city, in 1916, adopted its comprehensive zoning plan. It may be well to state briefly what zoning is. It has been defined as "the application of common sense and fairness to the public regulations governing the use of private real estate. It is a painstaking, honest effort to provide each district or neighborhood, as nearly as practicable, with just such protection and just such liberty as are sensible in that particular district." This figure shows the incorporated and mapped areas within a radius of 30 miles of the New York City Hall, those in which zoning plans were being prepared in January, 1923, and those which had actually adopted such plans. The fact that over 50 of the municipal corporations in this district had already adopted such plans is significant. The public attitude toward zoning in New York City is indicated by the amendments to the zoning plans which have been made since they were first adopted. During the first three and one-half years, or up to the close of 1919, property owners were still somewhat timid and uncertain of the effects of zoning. During this period a number of amendments were made, of which 73 tended to relax the requirements while 20 strengthened them. In marked contrast to this record is that of the two following years, during which 27 amendments made the restrictions less rigid and 38 made them more so. Inasmuch as these changes were all based upon petitions, it is apparent that property owners are more and more disposed to favor the upholding and strengthening of the zoning requirements. If objections to zoning still persist, they may fairly be said to be individual and not to represent the attitude of important groups in the community.


Zoned Communities Within the 30-mile Circle
Bogota, N.J.
Bound Brook, N.J.
Bronxville, N.Y.
Caldwell, N.J.
Cliffside Park, N.J.
Cranford, N.J.
East Orange, N.J.
Elizabeth, N.J.
Fort Lee, N.J.
Garden City, N.Y.
Garwood, N.J.
Glen Ridge, N.J.
*Great Neck Estates, N.Y.
*Hawthorne, N.J.
Hillside, N.J.
Hoboken, N.J.
Irvington, N.J.
Jersey City, N.J.
Kearney, N.J.
*Leonia, N.J.
*Linden, N.J.
Long Branch, N.J.
Madison, N.J.
*Maplewood, N.J.
Montclair, N.J.
Mt. Vernon, N.Y.
Newark, N.J.
New Rochelle, N.Y.
New York City, N.Y.
North Pelham, N.Y.
Nutley, N.J.
Orange, N.J.
Passaic, N.J.
Paterson, N.J.
Pelham, N.Y.
Pelham Manor, N.Y.
Rahway, N.J.
Roselle, N.J.
Roselle Park, N.J.
Rutherford, N.J.
Rye, N.Y.
Scarsdale, N.Y.
South Orange, N.J.
Teaneck, N.J.
Totowa, N.J.
*Verona, N.J.
Westfield, N.J.
West Hoboken, N.J.
West Orange, N.J.
White Plains, N.Y.
Yonkers, N.Y.
Boonton, N.J.
Irvington, N.Y.
Larchmont, N.Y.
Mamaroneck Town, N.Y. (unincorporated part)
Port Chester, N.Y.
Ridgefield Park, N.J.
Ridgewood, N.J.
Tenafly, N.J.
*Ordinance provides for Use regulations only
N
30 mi.
20 mi.
10 mi.
5 mi.
NEW YORK AND ENVIRONS
SHOWING
INCORPORATED PLACES & MAPPED AND ZONED AREAS
Scale 0 5 10 15 20 Miles
MAR. 1923.
LEGEND
Incorporated
Incorporated and Mapped
Zoning Plan being prepared
Zoning Plan adopted
Boundaries
State
County
Township, City etc.
Note:
Circles indicate distances from New York City Hall.
PLAN OF NEW YORK AND ITS ENVIRONS
PHYSICAL SURVEY-130 E. 22nd ST.

Wm. F. Fell Co., Printers
Philadelphia

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